

#3

SEQUENCE LISTING

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PATENT & TRADEMARK OFFICE



<110> Shimkets, Richard  
Lichenstein, Henri  
Vernet, Corine  
Fernandes, Elma

<120> NOVEL POLYPEPTIDES AND NUCLEIC ACIDS ENCODING SAME

<130> 15966-606

<140> 09/715,417

<141> 2000-11-16

<150> 60/166,336

<151> 1999-11-19

<150> 60/167,785

<151> 1999-11-29

<150> 60/187,844

<151> 2000-03-08

<160> 38

<170> PatentIn Ver. 2.1

<210> 1

<211> 791

<212> DNA

<213> Homo sapiens

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 <212> PRT  
 <213> Homo sapiens

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 35 40 45  
 Ser Arg Arg Ser Ile Val Pro Ser Ser Pro Gln Pro Gln Arg Ala Gln  
 50 55 60  
 Leu Ala Pro His Ala Pro His Pro Ser His Pro Arg His Pro His His  
 65 70 75 80  
 Pro Gln His Thr Pro His Ser Leu Pro Ser Pro Asp Pro Asp Ile Leu  
 85 90 95  
 Ser Val Ser Ser Cys Pro Ala Leu Tyr Arg Asn Glu Glu Glu Glu Glu  
 100 105 110  
 Ala Ile Tyr Phe Ser Ala Glu Lys Gln Cys Met Ile Ile Val Thr Ser  
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<210> 4

<211> 315

<212> PRT

<213> Homo sapiens

<400> 4

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```

```

Leu Cys Glu Thr Gly Trp Thr Gly Pro Ser Cys Asp Thr Gln Ala Val
      35             40             45

```

```

Leu Ser Ala Val Cys Thr Pro Pro Cys Ser Ala His Ala Thr Cys Lys

```

50

55

60

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 85 90 95

Lys Val Ala Arg Cys Ser Gln Lys Gly Thr Lys Val Ser Cys Ser Cys  
 100 105 110

Gln Lys Gly Tyr Lys Gly Asp Gly His Ser Cys Thr Glu Ile Asp Pro  
 115 120 125

Cys Ala Asp Gly Leu Asn Gly Gly Cys His Glu His Ala Thr Cys Lys  
 130 135 140

Met Thr Gly Pro Gly Lys His Lys Cys Glu Cys Lys Ser His Tyr Val  
 145 150 155 160

Gly Asp Gly Leu Asn Cys Glu Pro Glu Gln Leu Pro Ile Asp Arg Cys  
 165 170 175

Leu Gln Asp Asn Gly Gln Cys His Ala Asp Ala Lys Cys Ala Asp Leu  
 180 185 190

His Phe Gln Asp Thr Thr Val Gly Val Phe His Leu Arg Ser Pro Leu  
 195 200 205

Gly Gln Tyr Lys Leu Thr Phe Asp Lys Ala Arg Glu Ala Cys Ala Asn  
 210 215 220

Glu Ala Ala Thr Met Ala Thr Tyr Asn Gln Leu Ser Tyr Ala Gln Lys  
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&lt;210&gt; 5

&lt;211&gt; 1804

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 5

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&lt;210&gt; 6

&lt;211&gt; 244

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 6

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 35 40 45  
 Leu Ser Ala Val Cys Thr Pro Pro Cys Ser Ala His Ala Thr Cys Lys  
 50 55 60  
 Glu Asn Asn Thr Cys Glu Cys Asn Leu Asp Tyr Glu Gly Asp Gly Ile  
 65 70 75 80  
 Thr Cys Thr Val Val Asp Phe Cys Lys Gln Asp Asn Gly Gly Cys Ala  
 85 90 95  
 Lys Val Ala Arg Cys Ser Gln Lys Gly Thr Lys Val Ser Cys Ser Cys  
 100 105 110  
 Gln Lys Gly Tyr Lys Gly Asp Gly His Ser Cys Thr Glu Ile Asp Pro  
 115 120 125  
 Cys Ala Asp Gly Leu Asn Gly Gly Cys His Glu His Ala Thr Cys Lys  
 130 135 140  
 Met Thr Gly Pro Gly Lys His Lys Cys Glu Cys Lys Ser His Tyr Val  
 145 150 155 160  
 Gly Asp Gly Leu Asn Cys Glu Pro Glu Gln Leu Pro Ile Asp Arg Cys  
 165 170 175  
 Leu Gln Asp Asn Gly Gln Cys His Ala Asp Ala Lys Cys Val Asp Leu  
 180 185 190  
 His Phe Gln Asp Thr Thr Val Gly Val Phe His Leu Arg Ser Pro Leu  
 195 200 205  
 Gly Gln Tyr Lys Leu Thr Phe Asp Lys Ala Arg Glu Ala Cys Ala Asn  
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 Glu Ala Ala Thr Met Ala Thr Tyr Asn Gln Leu Ser Tyr Ala Gln Lys  
 225 230 235 240  
 Arg Glu Glu Lys

<210> 7  
 <211> 1450  
 <212> DNA  
 <213> Homo sapiens

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 <212> PRT  
 <213> Homo sapiens

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 35 40 45

Gln Arg Gly Ala Ala Val Arg Val Cys Arg Gly Arg Gly Arg Ala Gly  
 50 55 60

Gly Ala Gly Arg Arg Asp Gly Arg Ala Ala Leu Gly Gly Pro Thr Ala  
 65 70 75 80

Ala Cys Ser Thr Ala Trp Ser Thr Trp Lys Pro Thr Trp Thr Gly Cys  
 85 90 95

Val Pro Ser Ser Thr Pro Ser Ala Ala Thr Thr Ser Ser Ser Thr Ala  
 100 105 110

Gln Ala Arg Trp Ser Ser Ala Arg Ile Thr Ala Pro Cys Glu His Leu  
 115 120 125

Leu Pro Asn Gly Ala Val Gly Pro Gln Ala Asp Cys Arg Pro Pro Arg  
 130 135 140

Gly Phe Ser Leu Leu His Arg Pro Cys Gln Val His Phe Ser Thr Val  
 145 150 155 160

Tyr Leu Pro Gly His His Ala Ala Arg Gly Thr Glu Pro Thr Ser Thr  
 165 170 175

Ser Phe Pro Arg Trp Thr Ser Leu Ser Ile Met Gly Ser Trp Pro Ser  
 180 185 190

Thr Trp Thr Thr Thr Gln Arg Phe Trp Thr Ser Pro Thr Cys Leu Thr  
 195 200 205

Thr Trp Leu Leu Thr Leu Ser Ser Ala Thr Thr Ala Ser Ser Met Arg  
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Ser  
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<210> 9  
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<400> 9

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<211> 198

<212> PRT

<213> Homo sapiens

<400> 10

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```

```
Phe Ala Leu Met Ile Ser Thr Cys Ile Leu Pro Asn Ile Glu Ala Val
                35                      40                      45
```

```
Ser Asn Val His Asn Leu Asn Ser Val Lys Glu Ser Pro His Glu Arg
                50                      55                      60
```

```
Met His Arg His Ile Glu Leu Ala Trp Ala Phe Ser Thr Val Ile Gly
                65                      70                      75                      80
```

```
Thr Leu Leu Phe Leu Ala Glu Val Val Leu Leu Cys Trp Val Lys Phe
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85

90

95

Leu Pro Leu Lys Lys Gln Pro Gly Gln Pro Arg Pro Thr Ser Lys Pro  
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Pro Ala Ser Gly Ala Ala Ala Asn Val Ser Thr Ser Gly Ile Thr Pro  
 115 120 125

Gly Gln Ala Ala Ala Ile Ala Ser Thr Thr Ile Met Val Pro Phe Gly  
 130 135 140

Leu Ile Phe Ile Val Phe Ala Val His Phe Tyr Arg Ser Leu Val Ser  
 145 150 155 160

His Lys Thr Asp Arg Gln Phe Gln Glu Leu Asn Glu Leu Ala Glu Phe  
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Ala Arg Leu Gln Asp Gln Leu Asp His Arg Gly Asp His Pro Leu Thr  
 180 185 190

Pro Gly Ser His Tyr Ala  
 195

<210> 11

<211> 2512

<212> DNA

<213> Homo sapiens

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<211> 669

<212> PRT

<213> Homo sapiens

<400> 12

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Gly	Gly	Pro	Arg	Gly	Val	Glu	Glu	Arg	Met	Glu	Asp	Arg	Arg	Ala	Lys
		35						40					45		

Trp	His	Ile	Ala	Ala	Lys	Asp	Ser	Cys	Leu	Trp	Leu	Lys	Pro	Ser	Asp
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Leu	Leu	Leu	Gln	Val	Lys	Asp	Trp	Asp	Lys	Tyr	Gly	Leu	Met	Pro	Gln
	65					70				75				80	

Val Leu Arg Tyr His Val Val Ala Cys His Gln Leu Leu Leu Glu Asn

85

90

95

Leu Lys Leu Ile Ser Asn Ala Thr Ser Leu Gln Gly Glu Pro Ile Val  
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Ile Ser Val Ser Gln Ser Thr Val Tyr Ile Asn Asn Lys Ala Lys Ile  
 115 120 125

Ile Ser Ser Asp Ile Ile Ser Thr Asn Gly Ile Val His Ile Ile Asp  
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Lys Leu Leu Ser Pro Lys Asn Leu Leu Ile Thr Pro Lys Asp Asn Ser  
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Gly Arg Ile Leu Gln Asn Leu Thr Thr Leu Ala Thr Asn Asn Gly Tyr  
 165 170 175

Ile Lys Phe Ser Asn Leu Ile Gln Asp Ser Gly Leu Leu Ser Val Ile  
 180 185 190

Thr Asp Pro Ile His Thr Pro Val Thr Leu Phe Trp Pro Thr Asp Gln  
 195 200 205

Ala Leu His Ala Leu Pro Ala Glu Gln Gln Asp Phe Leu Phe Asn Gln  
 210 215 220

Asp Asn Lys Asp Lys Leu Lys Glu Tyr Leu Lys Phe His Val Ile Arg  
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Asp Ala Lys Val Leu Ala Val Asp Leu Pro Thr Ser Thr Ala Trp Lys  
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Thr Leu Gln Gly Ser Glu Leu Ser Val Lys Cys Gly Ala Gly Arg Asp  
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Ile Gly Asp Leu Phe Leu Asn Gly Gln Thr Cys Arg Ile Val Gln Arg  
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Glu Leu Leu Phe Asp Leu Gly Val Ala Tyr Gly Ile Asp Cys Leu Leu  
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Ile Asp Pro Thr Leu Gly Gly Arg Cys Asp Thr Phe Thr Thr Phe Asp  
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Ala Ser Gly Glu Cys Gly Ser Cys Val Asn Thr Pro Ser Cys Pro Arg  
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Trp Ser Lys Pro Lys Gly Val Lys Gln Lys Cys Leu Tyr Asn Leu Pro

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Gln Ile Pro Arg Cys Cys Lys Gly Tyr Phe Gly Arg Asp Cys Gln Ala		
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Cys Pro Gly Gly Pro Val Ala Pro Cys Asn Asn Arg Gly Val Cys Leu		
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Asp Gln Tyr Ser Ala Thr Gly Glu Cys Lys Cys Asn Thr Gly Phe Asn		
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Gly Thr Ala Cys Glu Met Cys Trp Pro Gly Arg Phe Gly Pro Asp Cys		
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Leu Pro Cys Gly Cys Ser Asp His Gly Gln Cys Asp Asp Gly Ile Thr		
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Gly Ser Gly Gln Cys Leu Cys Glu Thr Gly Trp Thr Gly Pro Ser Cys		
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Asp Thr Gln Ala Val Leu Ser Ala Val Cys Thr Pro Pro Cys Ser Ala		
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His Ala Thr Cys Lys Glu Asn Asn Thr Cys Glu Cys Asn Leu Asp Tyr		
485	490	495
Glu Gly Asp Gly Ile Thr Cys Thr Val Val Asp Phe Cys Lys Gln Asp		
500	505	510
Asn Gly Gly Cys Ala Lys Val Ala Arg Cys Ser Gln Lys Gly Thr Lys		
515	520	525
Val Ser Cys Ser Cys Gln Lys Gly Tyr Lys Gly Asp Gly His Ser Cys		
530	535	540
Thr Glu Ile Asp Pro Cys Ala Asp Gly Leu Asn Gly Gly Cys His Glu		
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His Ala Thr Cys Lys Met Thr Gly Pro Gly Lys His Lys Cys Glu Cys		
565	570	575
Lys Ser His Tyr Val Gly Asp Gly Leu Asn Cys Glu Pro Glu Gln Leu		
580	585	590
Pro Ile Asp Arg Cys Leu Gln Asp Asn Gly Gln Cys His Ala Asp Ala		

595

600

605

Lys Cys Val Asp Leu His Phe Gln Asp Thr Thr Val Gly Val Phe His  
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Glu Ala Cys Ala Asn Glu Ala Ala Thr Met Ala Thr Tyr Asn Gln Leu  
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Ser Tyr Ala Gln Lys Thr Trp Tyr Ser Phe Thr Lys Glu  
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&lt;211&gt; 1624

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 13

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&lt;210&gt; 14

&lt;211&gt; 381

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 14

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Gly Gly Pro Arg Gly Val Glu Glu Arg Met Glu Asp Arg Arg Ala Lys  
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Trp His Ile Ala Ala Lys Asp Ser Cys Leu Trp Leu Lys Pro Ser Asp  
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Leu Leu Leu Gln Val Lys Asp Trp Asp Lys Tyr Gly Leu Met Pro Gln  
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Val Leu Arg Tyr His Val Val Ala Cys His Gln Leu Leu Leu Glu Asn  
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Leu Lys Leu Ile Ser Asn Ala Thr Ser Leu Gln Gly Glu Pro Ile Val  
 100 105 110

Ile Ser Val Ser Gln Ser Thr Val Tyr Ile Asn Asn Lys Ala Lys Ile  
 115 120 125

Ile Ser Ser Asp Ile Ile Ser Thr Asn Gly Ile Val His Ile Ile Asp  
 130 135 140

Lys Leu Leu Ser Pro Lys Asn Leu Leu Ile Thr Pro Lys Asp Asn Ser  
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Gly Arg Ile Leu Gln Asn Leu Thr Thr Leu Ala Thr Asn Asn Gly Tyr  
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Ile Lys Phe Ser Asn Leu Ile Gln Asp Ser Gly Leu Leu Ser Val Ile  
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Thr Asp Pro Ile His Thr Pro Val Thr Leu Phe Trp Pro Thr Asp Gln  
 195 200 205

Ala Leu His Ala Leu Pro Ala Glu Gln Gln Asp Phe Leu Phe Asn Gln  
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 Asp Asn Lys Asp Lys Leu Lys Glu Tyr Leu Lys Phe His Val Ile Arg  
 225 230 235 240  
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 245 250 255  
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<211> 2483

<212> DNA

<213> Homo sapiens

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<210> 16

<211> 669

<212> PRT

<213> Homo sapiens

<400> 16

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15

Ser Leu His Ser Ile Ile Leu Thr Thr Lys Leu Thr Ser Gln Ser Leu

20

25

30



Glu	Leu	Leu	Phe	Asp	Leu	Gly	Val	Ala	Tyr	Gly	Ile	Asp	Cys	Leu	Leu	290	295	300	
Ile	Asp	Pro	Thr	Leu	Gly	Gly	Arg	Cys	Asp	Thr	Phe	Thr	Thr	Phe	Asp	305	310	315	320
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Trp	Ser	Lys	Pro	Lys	Gly	Val	Lys	Gln	Lys	Cys	Leu	Tyr	Asn	Leu	Pro	340	345	350	
Phe	Lys	Arg	Asn	Leu	Glu	Gly	Cys	Arg	Glu	Arg	Cys	Ser	Leu	Val	Ile	355	360	365	
Gln	Ile	Pro	Arg	Cys	Cys	Lys	Gly	Tyr	Phe	Gly	Arg	Asp	Cys	Gln	Ala	370	375	380	
Cys	Pro	Gly	Gly	Pro	Asp	Ala	Pro	Cys	Asn	Asn	Arg	Gly	Val	Cys	Leu	385	390	395	400
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His Ala Thr Cys Lys Met Thr Gly Pro Gly Lys His Lys Cys Glu Cys  
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Lys Ser His Tyr Val Gly Asp Gly Leu Asn Cys Glu Pro Glu Gln Leu  
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Pro Ile Asp Arg Cys Leu Gln Asp Asn Gly Gln Cys His Ala Asp Ala  
 595 600 605

Lys Cys Val Asp Leu His Phe Gln Asp Thr Thr Val Gly Val Phe His  
 610 615 620

Leu Arg Ser Pro Leu Gly Gln Tyr Lys Leu Thr Phe Asp Lys Ala Arg  
 625 630 635 640

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<210> 17

<211> 3625

<212> DNA

<213> Homo sapiens

<400> 17

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<210> 18

<211> 545

<212> PRT

<213> Homo sapiens

<400> 18

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Ser Leu His Ser Ile Ile Leu Thr Thr Lys Leu Thr Ser Gln Ser Leu  
20 25 30

Gly Gly Pro Arg Gly Val Glu Glu Arg Met Glu Asp Arg Arg Ala Lys  
35 40 45

Trp His Ile Ala Ala Lys Asp Ser Cys Leu Trp Leu Lys Pro Ser Asp  
50 55 60

Leu Leu Leu Gln Val Lys Asp Trp Asp Lys Tyr Gly Leu Met Pro Gln  
65 70 75 80

Val Leu Arg Tyr His Val Val Ala Cys His Gln Leu Leu Leu Glu Asn  
85 90 95

Leu Lys Leu Ile Ser Asn Ala Thr Ser Leu Gln Gly Glu Pro Ile Val  
100 105 110

Ile Ser Val Ser Gln Ser Thr Val Tyr Ile Asn Asn Lys Ala Lys Ile  
115 120 125

Ile Ser Ser Asp Ile Ile Ser Thr Asn Gly Ile Val His Ile Ile Asp  
130 135 140

Lys Leu Leu Ser Pro Lys Asn Leu Leu Ile Thr Pro Lys Asp Asn Ser  
145 150 155 160

Gly Arg Ile Leu Gln Asn Leu Thr Thr Leu Ala Thr Asn Asn Gly Tyr  
165 170 175

Ile Lys Phe Ser Asn Leu Ile Gln Asp Ser Gly Leu Leu Ser Val Ile  
180 185 190

Thr Asp Pro Ile His Thr Pro Val Thr Leu Phe Trp Pro Thr Asp Gln  
195 200 205

Ala Leu His Ala Leu Pro Ala Glu Gln Gln Asp Phe Leu Phe Asn Gln  
210 215 220

Asp Asn Lys Asp Lys Leu Lys Glu Tyr Leu Lys Phe His Val Ile Arg  
225 230 235 240

Asp	Ala	Lys	Val	Leu	Ala	Val	Asp	Leu	Pro	Thr	Ser	Thr	Ala	Trp	Lys	245	250	255	
Thr	Leu	Gln	Gly	Ser	Glu	Leu	Ser	Val	Lys	Cys	Gly	Ala	Gly	Arg	Asp	260	265	270	
Ile	Gly	Asp	Leu	Phe	Leu	Asn	Gly	Gln	Thr	Cys	Arg	Ile	Val	Gln	Arg	275	280	285	
Glu	Leu	Leu	Phe	Asp	Leu	Gly	Val	Ala	Tyr	Gly	Ile	Asp	Cys	Leu	Leu	290	295	300	
Ile	Asp	Pro	Thr	Leu	Gly	Gly	Arg	Cys	Asp	Thr	Phe	Thr	Thr	Phe	Asp	305	310	315	320
Ala	Ser	Gly	Glu	Cys	Gly	Ser	Cys	Val	Asn	Thr	Pro	Ser	Cys	Pro	Arg	325	330	335	
Trp	Ser	Lys	Pro	Lys	Gly	Val	Lys	Gln	Lys	Cys	Leu	Tyr	Asn	Leu	Pro	340	345	350	
Phe	Lys	Arg	Asn	Leu	Glu	Gly	Cys	Arg	Glu	Arg	Cys	Ser	Leu	Val	Ile	355	360	365	
Gln	Ile	Pro	Arg	Cys	Cys	Lys	Gly	Tyr	Phe	Gly	Arg	Asp	Cys	Gln	Gly	370	375	380	
Glu	Gly	Ala	Ser	Ser	Pro	Leu	Ala	Thr	Leu	Lys	Val	Ser	Ala	Leu	Ile	385	390	395	400
Ser	Thr	Arg	Pro	Pro	Glu	Ser	Val	Asn	Ala	Thr	Pro	Ala	Ser	Met	Gly	405	410	415	
Arg	Arg	Val	Arg	Cys	Ala	Gly	Arg	Gly	Asp	Leu	Gly	Leu	Ile	Val	Cys	420	425	430	
Pro	Val	Ala	Ala	Gln	Thr	Thr	Asp	Ser	Ala	Met	Met	Ala	Ser	Arg	Ala	435	440	445	
Pro	Gly	Ser	Ala	Ser	Val	Lys	Arg	Gly	Gly	Gln	Ala	Pro	Arg	Val	Thr	450	455	460	
Leu	Arg	Gln	Phe	Cys	Leu	Gln	Cys	Val	Arg	Leu	Leu	Val	Leu	Leu	Met	465	470	475	480
Pro	Pro	Val	Arg	Arg	Thr	Thr	Arg	Val	Ser	Val	Thr	Trp	Ile	Met	Lys	485	490	495	

Val Thr Glu Ser His Ala Gln Leu Trp Ile Ser Ala Asn Arg Thr Thr  
 500 505 510

Gly Ala Val Gln Arg Trp Pro Asp Ala Pro Arg Arg Ala Arg Arg Ser  
 515 520 525

Pro Ala Ala Ala Arg Arg Asp Thr Lys Gly Thr Gly Thr Ala Ala Gln  
 530 535 540

Arg  
 545

<210> 19

<211> 1577

<212> DNA

<213> Homo sapiens

<400> 19

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<210> 20

<211> 334

<212> PRT

<213> Homo sapiens

<400> 20

Met Glu Ala Arg Lys Glu Leu Glu Ser Leu Pro Pro Phe Cys Leu Asn  
1 5 10 15

Ser Leu His Ser Ile Ile Leu Thr Thr Lys Leu Thr Ser Gln Ser Leu  
20 25 30

Gly Gly Pro Arg Gly Val Glu Glu Arg Met Glu Asp Arg Arg Ala Lys  
35 40 45

Trp His Ile Ala Ala Lys Asp Ser Cys Leu Trp Leu Lys Pro Ser Asp  
50 55 60

Leu Leu Leu Gln Val Lys Asp Trp Asp Lys Tyr Gly Leu Met Pro Gln  
65 70 75 80

Val Leu Arg Tyr His Val Val Ala Cys His Gln Leu Leu Leu Glu Asn  
85 90 95

Leu Lys Leu Ile Ser Asn Ala Thr Ser Leu Gln Gly Glu Pro Ile Val  
100 105 110

Ile Ser Val Ser Gln Ser Thr Val Tyr Ile Asn Asn Lys Ala Lys Ile  
115 120 125

Ile Ser Ser Asp Ile Ile Ser Thr Asn Gly Ile Val His Ile Ile Asp  
130 135 140

Lys Leu Leu Ser Pro Lys Asn Leu Leu Ile Thr Pro Lys Asp Asn Ser  
145 150 155 160

Gly Arg Ile Leu Gln Asn Leu Thr Thr Leu Ala Thr Asn Asn Gly Tyr  
165 170 175

Ile Lys Phe Ser Asn Leu Ile Gln Asp Ser Gly Leu Leu Ser Val Ile  
180 185 190

Thr Asp Pro Ile His Thr Pro Val Thr Leu Phe Trp Pro Thr Asp Gln  
195 200 205

Ala Leu His Ala Leu Pro Ala Glu Gln Gln Asp Phe Leu Phe Asn Gln  
210 215 220

Asp Asn Lys Asp Lys Leu Lys Glu Tyr Leu Lys Phe His Val Ile Arg  
 225 230 235 240

Asp Ala Lys Val Leu Ala Val Asp Leu Pro Thr Ser Thr Ala Trp Lys  
 245 250 255

Thr Leu Gln Gly Ser Glu Leu Ser Val Lys Cys Gly Ala Gly Arg Asp  
 260 265 270

Ile Gly Asp Leu Phe Leu Asn Gly Gln Thr Cys Arg Ile Val Gln Arg  
 275 280 285

Glu Leu Leu Phe Asp Leu Gly Val Ala Tyr Gly Ile Asp Cys Leu Leu  
 290 295 300

Ile Asp Pro Thr Leu Gly Gly Arg Cys Asp Thr Phe Thr Thr Phe Asp  
 305 310 315 320

Ala Ser Val Ser Pro Lys Asn Asn Ser Val Val Arg Glu Pro  
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<210> 21

<211> 2070

<212> DNA

<213> Homo sapiens

<400> 21

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<210> 22

<211> 280

<212> PRT

<213> Homo sapiens

<400> 22

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Met Pro Arg Val Ser Ile Pro Pro Tyr Pro Ile Ala Gly Gly Val Asp
  1             5             10             15

```

```

Asp Leu Asp Glu Asp Thr Pro Pro Ile Val Ser Gln Phe Pro Gly Thr
          20             25             30

```

```

Met Ala Lys Pro Pro Gly Ser Leu Ala Arg Ser Ser Ser Leu Cys Arg
          35             40             45

```

```

Ser Arg Arg Ser Ile Val Pro Ser Ser Pro Gln Pro Gln Arg Ala Gln
          50             55             60

```

```

Leu Ala Pro His Ala Pro His Pro Ser His Pro Arg His Pro His His
          65             70             75             80

```

```

Pro Gln His Thr Pro His Ser Leu Pro Ser Pro Asp Pro Asp Ile Leu
          85             90             95

```

```

Ser Val Ser Ser Cys Pro Ala Leu Tyr Arg Asn Glu Glu Glu Glu Glu
          100             105             110

```

```

Ala Ile Tyr Phe Ser Ala Glu Lys Gln Trp Glu Val Pro Asp Thr Ala
          115             120             125

```

Ser Glu Cys Asp Ser Leu Asn Ser Ser Ile Gly Arg Lys Gln Ser Pro  
 130 135 140

Pro Leu Ser Leu Glu Ile Tyr Gln Thr Leu Ser Pro Arg Lys Ile Ser  
 145 150 155 160

Arg Asp Glu Val Ser Leu Glu Asp Ser Ser Arg Gly Asp Ser Pro Val  
 165 170 175

Thr Val Asp Val Ser Trp Gly Ser Pro Asp Cys Val Gly Leu Thr Glu  
 180 185 190

Thr Lys Ser Met Ile Phe Ser Pro Ala Ser Lys Val Tyr Asn Gly Ile  
 195 200 205

Leu Glu Lys Ser Cys Ser Met Asn Gln Leu Ser Ser Gly Ile Pro Val  
 210 215 220

Pro Lys Pro Arg His Thr Ser Cys Ser Ser Ala Gly Asn Asp Ser Lys  
 225 230 235 240

Pro Val Gln Glu Ala Pro Ser Val Ala Arg Ile Ser Ser Ile Pro His  
 245 250 255

Asp Leu Cys His Asn Gly Glu Lys Ser Lys Lys Pro Ser Lys Ile Lys  
 260 265 270

Ser Leu Phe Lys Lys Lys Ser Lys  
 275 280

<210> 23

<211> 1347

<212> DNA

<213> Homo sapiens

<400> 23

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<210> 24

<211> 182

<212> PRT

<213> Homo sapiens

<400> 24

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Met Ala Arg Thr Ala Cys Arg Ala Pro Gln Arg His His His Met Arg
  1              5              10              15

```

```

Pro Trp Gly Asp His Arg Glu Glu Glu Thr Gln Cys Gln Gln Asp Pro
      20              25              30

```

```

Leu Ser Asn Tyr Ile Lys Phe Arg Asp Cys Val Lys Phe Asp Ile Val
      35              40              45

```

```

Gly Tyr Gly Gly Phe Gly Met Pro Leu Thr Lys Leu Gly Gln Glu Glu
      50              55              60

```

```

Ala Leu Tyr Gln Ala Leu Lys Asn Val His Pro Asp Leu His Val Tyr
      65              70              75              80

```

```

Lys Lys Glu Phe Pro Glu Asp Phe His Leu Ala Lys His Asp Gln Val
      85              90              95

```

```

Leu Pro Ile Met Met Tyr Ala Asn Cys Gly Tyr Ser Ile Asn Gly Arg
      100             105             110

```

```

Ile Ile Met Cys Phe Asn Lys Gly Ser His Gly Phe Asp Asn Val Leu
      115             120             125

```

```

Met Asp Ile Lys Thr Ile Phe Arg Asp Phe Gly Pro Asp Phe Lys Arg
      130             135             140

```

```

Asn Arg Leu Ala Glu Pro Phe Asn Ser Ile His Ile Tyr Pro Phe Val

```

145

150

155

160

Cys Lys Leu Leu Gly Val Thr Pro Lys Pro Thr Thr Ala Pro Trp Gln  
 165 170 175

Ser Pro Arg Lys Cys Ser  
 180

&lt;210&gt; 25

&lt;211&gt; 1683

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 25

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 cct 1683

&lt;210&gt; 26

&lt;211&gt; 171

<212> PRT

<213> Homo sapiens

<400> 26

Met Arg Ser Trp Gly Ser Pro Glu Ser Asn Ser Thr Leu Ser Asp Ser  
1 5 10 15

Lys Asp His Ile Phe Ser Thr Ser Leu Asp Trp Gly Thr Asn Val Asp  
20 25 30

Asn Ser Ser Phe Ala Asp Cys Glu Lys Gly Met Arg Asn Gly Pro Asp  
35 40 45

Gly Ile Phe Phe Leu Tyr Leu Gln Gly Asn Lys Ala Ala Ser Ser His  
50 55 60

Tyr Ser Arg Glu Val Leu Asn Met Arg Val Arg Leu Val Lys Arg Ser  
65 70 75 80

Leu Val Glu Ser Tyr Thr His Pro Asn Ser Lys Glu Thr Glu Arg Arg  
85 90 95

Glu Asn Ile Asp Thr Val Leu Asn Trp Phe Thr Lys Glu Glu Phe Asp  
100 105 110

Phe Val Thr Leu Tyr Tyr Arg Glu Pro Asp Asn Met Gly His Arg Phe  
115 120 125

Arg Pro Glu Ala Glu Asn Arg Lys Leu Met Ile Gln Gln Ile Asn Arg  
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Thr Ile Gly Tyr Leu Val Gly Ala Thr Glu Lys His Ser Leu Gln Ser  
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Thr Ser Ala Ser Ser Ser His Glu Thr Met Gly  
165 170

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<211> 2912

<212> DNA

<213> Homo sapiens

<400> 27

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 <212> PRT  
 <213> Homo sapiens

<400> 28

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			20					25					30		
Thr	Asp	Phe	Phe	Pro	Cys	Thr	Val	Thr	Cys	Gly	Gly	Gly	Tyr	Gln	Leu
		35					40						45		
Asn	Ser	Ala	Glu	Cys	Val	Asp	Ile	Arg	Leu	Lys	Arg	Val	Val	Pro	Asp
		50					55				60				
His	Tyr	Cys	His	Tyr	Tyr	Pro	Glu	Asn	Val	Lys	Pro	Lys	Pro	Lys	Leu
	65				70					75					80
Lys	Glu	Cys	Ser	Met	Asp	Pro	Cys	Pro	Ser	Ser	Asp	Gly	Phe	Lys	Glu
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Ile	Met	Pro	Tyr	Asp	His	Phe	Gln	Pro	Leu	Pro	Arg	Trp	Glu	His	Asn
			100					105					110		
Pro	Trp	Thr	Ala	Cys	Ser	Val	Ser	Cys	Gly	Gly	Gly	Ile	Gln	Arg	Arg
		115						120				125			
Ser	Phe	Val	Cys	Val	Glu	Glu	Ser	Met	His	Gly	Glu	Ile	Leu	Gln	Val
		130					135				140				
Glu	Glu	Trp	Lys	Cys	Met	Tyr	Ala	Pro	Lys	Pro	Lys	Val	Met	Gln	Thr
	145				150					155				160	
Cys	Asn	Leu	Phe	Asp	Cys	Pro	Lys	Trp	Ile	Ala	Met	Glu	Trp	Ser	Gln
				165					170					175	
Cys	Thr	Val	Thr	Cys	Gly	Arg	Gly	Leu	Arg	Tyr	Arg	Val	Val	Leu	Cys
			180					185					190		
Ile	Asn	His	Arg	Gly	Glu	His	Val	Gly	Gly	Cys	Asn	Pro	Gln	Leu	Lys
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Leu	His	Ile	Lys	Glu	Glu	Cys	Val	Ile	Pro	Ile	Pro	Cys	Tyr	Lys	Pro
		210				215					220				
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Gln Glu Leu Glu Glu Thr Arg Ile Ala Thr Glu Glu Pro Thr Phe Ile						
	245		250		255	
Pro Glu Pro Trp Ser Ala Cys Ser Thr Thr Cys Gly Pro Gly Val Gln						
	260		265		270	
Val Arg Glu Val Lys Cys Arg Val Leu Leu Thr Phe Thr Gln Thr Glu						
	275		280		285	
Thr Glu Leu Pro Glu Glu Glu Cys Glu Gly Pro Lys Leu Pro Thr Glu						
	290		295		300	
Arg Pro Cys Leu Leu Glu Ala Cys Asp Glu Ser Pro Ala Ser Arg Glu						
305		310		315		320
Leu Asp Ile Pro Leu Pro Glu Asp Ser Glu Thr Thr Tyr Asp Trp Glu						
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Tyr Ala Gly Phe Thr Pro Cys Thr Ala Thr Cys Val Gly Gly His Gln						
	340		345		350	
Glu Ala Ile Ala Val Cys Leu His Ile Gln Thr Gln Gln Thr Val Asn						
	355		360		365	
Asp Ser Leu Cys Asp Met Val His Arg Pro Pro Ala Met Ser Gln Ala						
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Cys Asn Thr Glu Pro Cys Pro Pro Arg Trp His Val Gly Ser Trp Gly						
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Pro Cys Ser Ala Thr Cys Gly Val Gly Ile Gln Thr Arg Asp Val Tyr						
	405		410		415	
Cys Leu His Pro Gly Glu Thr Pro Ala Pro Pro Glu Glu Cys Arg Asp						
	420		425		430	
Glu Lys Pro His Ala Leu Gln Ala Cys Asn Gln Phe Asp Cys Pro Pro						
	435		440		445	
Gly Trp His Ile Glu Glu Trp Gln Gln Cys Ser Arg Thr Cys Gly Gly						
	450		455		460	
Gly Thr Gln Asn Arg Arg Val Thr Cys Arg Gln Leu Leu Thr Asp Gly						
465		470		475		480
Ser Phe Leu Asn Leu Ser Asp Glu Leu Cys Gln Gly Pro Lys Ala Ser						

485

490

495

Ser His Lys Ser Cys Ala Arg Thr Asp Cys Pro Pro His Leu Ala Val  
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Gly Asp Trp Ser Lys Cys Ser Val Ser Cys Gly Val Gly Ile Gln Arg  
515 520 525

Arg Lys Gln Val Cys Gln Arg Leu Ala Ala Lys Gly Arg Arg Ile Pro  
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Leu Ser Glu Met Met Cys Arg Asp Leu Pro Gly Phe Pro Leu Val Arg  
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Ser Cys Gln Met Pro Glu Cys Ser Lys Ile Lys Ser Glu Met Lys Thr  
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Lys Leu Gly Glu Gln Gly Pro Gln Ile Leu Ser Val Gln Arg Val Tyr  
580 585 590

Ile Gln Thr Arg Glu Glu Lys Arg Ile Asn Leu Thr Ile Gly Ser Arg  
595 600 605

Ala Tyr Leu Leu Pro Asn Thr Ser Val Ile Ile Lys Cys Pro Val Arg  
610 615 620

Arg Phe Gln Lys Ser Leu Ile Gln Trp Glu Lys Asp Gly Arg Cys Leu  
625 630 635 640

Gln Asn Ser Lys Arg Leu Gly Ile Thr Lys Ser Gly Ser Leu Lys Ile  
645 650 655

His Gly Leu Ala Ala Pro Asp Ile Gly Val Tyr Arg Cys Ile Ala Gly  
660 665 670

Ser Ala Gln Glu Thr Val Val Leu Lys Leu Ile Gly Thr Asp Asn Arg  
675 680 685

Leu Ile Ala Arg Pro Ala Leu Arg Glu Pro Met Arg Glu Tyr Pro Gly  
690 695 700

Met Asp His Ser Glu Ala Asn Ser Leu Gly Val Thr Trp His Lys Met  
705 710 715 720

Arg Gln Met Trp Asn Asn Lys Asn Asp Leu Tyr Leu Asp Asp Asp His  
725 730 735

Ile Ser Asn Gln Pro Phe Leu Arg Ala Leu Leu Gly His Cys Ser Asn

740

745

750

Ser Ala Gly Ser Thr Asn Ser Trp Glu Leu Lys Asn Lys Gln Phe Glu  
755 760 765

Ala Ala Val Lys Gln Gly Ala Tyr Ser Met Asp Thr Ala Gln Phe Asp  
770 775 780

Glu Leu Ile Arg Asn Met Ser Gln Leu Met Glu Thr Gly Glu Val Ser  
785 790 795 800

Asp Asp Leu Ala Ser Gln Leu Ile Tyr Gln Leu Val Ala Glu Leu Ala  
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Lys Ala Gln Pro Thr His Met Gln Trp Arg Gly Ile Gln Glu Glu Thr  
820 825 830

Pro Pro Ala Ala Gln Leu Arg Gly Glu Thr Gly Ser Val Ser Gln Ser  
835 840 845

Ser His Ala Lys Asn Ser Gly Lys Leu Thr Phe Lys Pro Lys Gly Pro  
850 855 860

Val Leu Met Arg Gln Ser Gln Pro Pro Ser Ile Ser Phe Asn Lys Thr  
865 870 875 880

Ile Asn Ser Arg Ile Gly Asn Thr Val Tyr Ile Thr Lys Arg Thr Glu  
885 890 895

Val Ile Asn Ile Leu Cys Asp Leu Ile Thr Pro Ser Glu Ala Thr Tyr  
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Thr Trp Thr Lys Asp Gly Thr Leu Leu Gln Pro Ser Val Lys  
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&lt;210&gt; 29

&lt;211&gt; 3905

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 29

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<211> 883

<212> PRT

<213> Homo sapiens

<400> 30

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Ala	Ile	Pro	Leu	Cys	Gln	Ala	Leu	Ser	Cys	Gly	Leu	Pro	Glu	Ala	Pro
		20					25						30		

Lys	Asn	Gly	Met	Val	Phe	Gly	Lys	Glu	Tyr	Thr	Val	Gly	Thr	Lys	Ala
	35						40					45			

Val	Tyr	Ser	Cys	Ser	Glu	Gly	Tyr	His	Leu	Gln	Ala	Gly	Ala	Glu	Ala
	50					55					60				

Thr	Ala	Glu	Cys	Leu	Asp	Thr	Gly	Leu	Trp	Ser	Asn	Arg	Asn	Val	Pro
65					70					75					80

Pro	Gln	Cys	Val	Pro	Val	Thr	Cys	Pro	Asp	Val	Ser	Ser	Ile	Ser	Val
			85						90					95	

Glu	His	Gly	Arg	Trp	Arg	Leu	Ile	Phe	Glu	Thr	Gln	Tyr	Gln	Phe	Gln
		100						105					110		

Ala	Gln	Leu	Met	Leu	Ile	Cys	Asp	Pro	Gly	Tyr	Tyr	Tyr	Thr	Gly	Gln
		115					120						125		

Arg	Val	Ile	Arg	Cys	Gln	Ala	Asn	Gly	Lys	Trp	Ser	Leu	Gly	Asp	Ser
	130						135				140				

Thr	Pro	Thr	Cys	Arg	Ile	Ile	Ser	Cys	Gly	Glu	Leu	Pro	Ile	Pro	Pro
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Asn Gly His Arg Ile Gly Thr Leu Ser Val Tyr Gly Ala Thr Ala Ile	165	170	175
Phe Ser Cys Asn Ser Gly Tyr Thr Leu Val Gly Ser Arg Val Arg Glu	180	185	190
Cys Met Ala Asn Gly Leu Trp Ser Gly Ser Glu Val Arg Cys Leu Ala	195	200	205
Gly His Cys Gly Thr Pro Glu Pro Ile Val Asn Gly His Ile Asn Gly	210	215	220
Glu Asn Tyr Ser Tyr Arg Gly Ser Val Val Tyr Gln Cys Asn Ala Gly	225	230	235
Phe Arg Leu Ile Gly Met Ser Val Arg Ile Cys Gln Gln Asp His His	245	250	255
Trp Ser Gly Lys Thr Pro Phe Cys Val Pro Ile Thr Cys Gly His Pro	260	265	270
Gly Asn Pro Val Asn Gly Leu Thr Gln Gly Asn Gln Phe Asn Leu Asn	275	280	285
Asp Val Val Lys Phe Val Cys Asn Pro Gly Tyr Met Ala Glu Gly Ala	290	295	300
Ala Arg Ser Gln Cys Leu Ala Ser Gly Gln Trp Ser Asp Met Leu Pro	305	310	315
Thr Cys Arg Ile Ile Asn Cys Thr Asp Pro Gly His Gln Glu Asn Ser	325	330	335
Val Arg Gln Val His Ala Ser Gly Pro His Arg Phe Ser Phe Gly Thr	340	345	350
Thr Val Ser Tyr Arg Cys Thr Thr Ala Ser Thr Ser Trp Ala Thr Pro	355	360	365
Val Leu Ser Cys Gln Gly Asp Gly Thr Trp Asp Arg Pro Arg Pro Gln	370	375	380
Cys Leu Leu Val Ser Cys Gly His Pro Gly Ser Pro Pro His Ser Gln	385	390	395
Met Ser Gly Asp Ser Tyr Thr Val Gly Ala Val Val Arg Tyr Ser Cys			400

405	410	415
Ile Gly Lys Arg Thr Leu Val Gly Asn Ser Thr Arg Met Cys Gly Leu		
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Asp Gly His Trp Thr Gly Ser Leu Pro His Cys Ser Gly Thr Ser Val		
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Gly Val Cys Gly Asp Pro Gly Ile Pro Ala His Gly Ile Arg Leu Gly		
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Asp Ser Phe Asp Pro Gly Thr Val Met Arg Phe Ser Cys Glu Ala Gly		
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His Val Leu Arg Gly Ser Ser Glu Arg Thr Cys Gln Ala Asn Gly Ser		
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Trp Ser Gly Ser Gln Pro Glu Cys Gly Val Ile Ser Cys Gly Asn Pro		
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Gly Thr Pro Ser Asn Ala Arg Val Val Phe Ser Asp Gly Leu Val Phe		
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Ser Ser Ser Ile Val Tyr Glu Cys Arg Glu Gly Tyr Tyr Ala Thr Gly		
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Leu Leu Ser Arg His Cys Ser Val Asn Gly Thr Trp Thr Gly Ser Asp		
545	550	555
Pro Glu Cys Leu Val Ile Asn Cys Gly Asp Pro Gly Ile Pro Ala Asn		
565	570	575
Gly Leu Arg Leu Gly Asn Asp Phe Arg Tyr Asn Lys Thr Val Thr Tyr		
580	585	590
Gln Cys Val Pro Gly Tyr Met Met Glu Ser His Arg Val Ser Val Leu		
595	600	605
Ser Cys Thr Lys Asp Arg Thr Trp Asn Gly Thr Lys Pro Val Cys Lys		
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Ala Leu Met Cys Lys Pro Pro Pro Leu Ile Pro Asn Gly Lys Val Val		
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Pro Gly Val Pro Ser Arg Gly Arg Arg Glu Asp Arg Gly Phe Ser Tyr		
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Arg Ser Ser Val Ser Phe Ser Cys His Pro Pro Leu Val Leu Val Gly		
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Ser Pro Arg Arg Phe Cys Gln Ser Asp Gly Thr Trp Ser Gly Thr Gln		
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Pro Ser Cys Ile Asp Pro Thr Leu Thr Thr Cys Ala Asp Pro Gly Val		
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Pro Gln Phe Gly Ile Gln Asn Asn Ser Gln Gly Tyr Gln Val Gly Ser		
755	760	765
Thr Val Leu Phe Arg Cys Gln Lys Gly Tyr Leu Leu Gln Gly Ser Thr		
770	775	780
Thr Arg Thr Cys Leu Pro Asn Leu Thr Trp Ser Gly Thr Pro Pro Asp		
785	790	795
Cys Val Pro His His Cys Arg Gln Pro Glu Thr Pro Thr His Ala Asn		
805	810	815
Val Gly Ala Leu Asp Leu Pro Ser Met Gly Tyr Thr Leu Ile Thr Pro		
820	825	830
Ala Arg Arg Ala Ser Pro Ser Arg Val Ala Pro Ser Thr Ala Pro Ala		
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Arg Arg Met Ala Ala Gly Gln Ala Ser Arg Pro Ser Ala Trp Gln Arg		
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Ser Gly Pro Val Gly Asp Pro Ser Thr Leu Pro Gly Ser His Arg Ser		
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<400> 31

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35 40 45

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50 55 60

Thr Ala Glu Cys Leu Asp Thr Gly Leu Trp Ser Asn Arg Asn Val Pro  
65 70 75 80

Pro Gln Cys Val Pro Val Thr Cys Pro Asp Val Ser Ser Ile Ser Val  
85 90 95

Glu His Gly Arg Trp Arg Leu Ile Phe Glu Thr Gln Tyr Gln Phe Gln  
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Ala	Gln	Leu	Met	Leu	Ile	Cys	Asp	Pro	Gly	Tyr	Tyr	Tyr	Thr	Gly	Gln	115	120	125
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Thr	Pro	Thr	Cys	Arg	Ile	Ile	Ser	Cys	Gly	Glu	Leu	Pro	Ile	Pro	Pro	145	150	155
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Phe	Ser	Cys	Asn	Ser	Gly	Tyr	Thr	Leu	Val	Gly	Ser	Arg	Val	Arg	Glu	180	185	190
Cys	Met	Ala	Asn	Gly	Leu	Trp	Ser	Gly	Ser	Glu	Val	Arg	Cys	Leu	Ala	195	200	205
Gly	His	Cys	Gly	Thr	Pro	Glu	Pro	Ile	Val	Asn	Gly	His	Ile	Asn	Gly	210	215	220
Glu	Asn	Tyr	Ser	Tyr	Arg	Gly	Ser	Val	Val	Tyr	Gln	Cys	Asn	Ala	Gly	225	230	235
Phe	Arg	Leu	Ile	Gly	Met	Ser	Val	Arg	Ile	Cys	Gln	Gln	Asp	His	His	245	250	255
Trp	Ser	Gly	Lys	Thr	Pro	Phe	Cys	Val	Pro	Ile	Thr	Cys	Gly	His	Pro	260	265	270
Gly	Asn	Pro	Val	Asn	Gly	Leu	Thr	Gln	Gly	Asn	Gln	Phe	Asn	Leu	Asn	275	280	285
Asp	Val	Val	Lys	Phe	Val	Cys	Asn	Pro	Gly	Tyr	Met	Ala	Glu	Gly	Ala	290	295	300
Ala	Arg	Ser	Gln	Cys	Leu	Ala	Ser	Gly	Gln	Trp	Ser	Asp	Met	Leu	Pro	305	310	315
Thr	Cys	Arg	Ile	Ile	Asn	Cys	Thr	Asp	Pro	Gly	His	Gln	Glu	Asn	Ser	325	330	335
Val	Arg	Gln	Val	His	Ala	Ser	Gly	Pro	His	Arg	Phe	Ser	Phe	Gly	Thr	340	345	350
Thr	Val	Ser	Tyr	Arg	Cys	Asn	His	Gly	Phe	Tyr	Leu	Leu	Gly	Thr	Pro	355	360	365

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 Gly Thr Pro Ser Asn Ala Arg Val Val Phe Ser Asp Gly Leu Val Phe  
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Cys	Val	Pro	His	His	Cys	Arg	Gln	Pro	Glu	Thr	Pro	Thr	His	Ala	Asn	805	810	815	
Val	Gly	Ala	Leu	Asp	Leu	Pro	Ser	Met	Gly	Tyr	Thr	Leu	Ile	Thr	Pro	820	825	830	
Ala	Arg	Arg	Ala	Ser	Pro	Ser	Arg	Val	Ala	Pro	Ser	Thr	Ala	Pro	Ala	835	840	845	
Arg	Arg	Met	Ala	Ala	Gly	Gln	Ala	Ser	Arg	Pro	Ser	Ala	Trp	Arg	Ser	850	855	860	
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<220>  
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<223> Wherein Xaa is any 3 or 4 amino acids as set forth  
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<222> (12)

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<223> Description of Artificial Sequence: consensus sequence

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<220>

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